Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-27. (Cancelled)

28. (Previously Presented) A method of making a metal matrix composite, the method comprising:

partially sintering ceramic particles to form a reinforcement preform having an average pore size of between 1-5 microns, an average interconnected porosity of between 35-45 vol.%, an approximately 100% open porosity, and a flexure strength of greater than 7 ksi; and

infusing the partially sintered preform with a metal matrix material under pressure, the metal matrix material selected from the group consisting of aluminum, an aluminum alloy, magnesium or a magnesium alloy.

29. (Cancelled)

30. (Previously Presented) The method of claim 28 in which infusion includes pressure casting.

31. (Previously Presented) The method of claim 28 in which infusion includes squeeze casting.

32. (Original) The method of claim 28 in which the resulting metal matrix composite has a high temperature stiffness retention of at least 95% at temperatures up to 500°F.

33. (Original) The method of claim 28 in which the resulting metal matrix composite has a high temperature strength retention of at least 85% up to 500°F.

34. (Original) The method of claim 28 in which the ultimate tensile strength of the resulting metal matrix composite is at least 80 ksi in all directions.

35. (Original) The method of claim 28 in which the ceramic particles are substantially pure.

36. (Original) The method of claim 35 in which the ceramic particles are at least 99.0% pure.

37. (Original) The method of claim 28 in which the metal matrix material is selected to prevent chemical reaction with the preform.

38. (Original) The method of claim 28 in which the particles of the preform are selected from the group consisting of alumina and silicon carbide.

39. (Cancelled)

40. (Previously Presented) The method of claim 28 in which the aluminum is substantially pure aluminum.

41. (Cancelled)

42. (Cancelled)

43. (Previously Presented) The method of claim 28 in which the step of infusing the partially sintered preform with a metal matrix material under pressure includes pressure casting the partially sintered preform with the metal matrix material.

44. (Previously Presented) The method of claim 28 in which the step of infusing the partially sintered preform with a metal matrix material under pressure includes squeeze casting the partially sintered preform with the metal matrix material.

45. (New) A method of making a metal matrix composite, the method comprising:

partially sintering ceramic particles to form an isotropic reinforcement preform; and

infusing a metal matrix under pressure into the preform yielding an isotropic metal matrix composite having an ultimate tensile strength of at least 80 ksi in all directions, the metal matrix material selected from the group consisting of aluminum, an aluminum alloy, magnesium or a magnesium alloy.

46. (New) The method of claim 45 in which the tensile strength is greater than or equal to 100 ksi.

47. (New) The method of claim 45 in which the metal matrix composite has an isotropic high temperature strength retention of at least 85% up to 500°F.

48. (New) The method of claim 45 in which the metal matrix composite has an isotropic high temperature stiffness retention of at least 95% at temperatures up to 500°F.

49. (New) The method of claim 45 in which the preform has an average pore size of 1-5 microns, an average interconnected porosity 35-45 vol.%, a 100% open porosity, and a flexure strength of greater than 7 ksi.

50. (New) The method of claim 45 in which the ceramic particles are substantially pure.

51. (New) The method of claim 50 in which the ceramic particles are at least 99.0% pure.

52. (New) The method of claim 45 further including the step of selecting the metal matrix material to prevent chemical reaction with the preform.

53. (New) The method of claim 45 further including the step of selecting the particles of the preform from the group consisting of alumina and silicon carbide.

54. (New) The method of claim 45 in which the aluminum is substantially pure aluminum.

55. (New) The method of claim 54 in which the aluminum is 99.999% pure aluminum.

56. (New) The method of claim 54 in which the aluminum alloy is aluminum alloy No. 201.

57. (New) The method of claim 45 in which the metal matrix composite has a coefficient of thermal expansion of less than 7.0 ppm/°F.

58. (New) A method of making a metal matrix composite, the method comprising:

providing a partially sintered reinforcement preform made of ceramic particles; and

infusing a metal matrix under pressure into the preform yielding an isotropic metal matrix composite having a high temperature strength retention of at least 85% up to 500 °F, the metal matrix material selected from the group consisting of aluminum, an aluminum alloy, magnesium or a magnesium alloy.

59. (New) The metal matrix composite of claim 58 in which the ultimate tensile strength of the metal matrix composite is at least 80 ksi in all directions.

60. (New) The metal matrix composite of claim 58 in which the metal matrix composite has a high temperature stiffness retention of at least 95% at temperatures up to 500°F.

61. (New) The metal matrix composite of claim 58 in which the preform has an average pore size of 1-5 microns, an average interconnected porosity 35-45 vol.%, a 100% open porosity, and a flexure strength of greater than 7 ksi.

62. (New) A method of making a metal matrix composite, the method comprising:

partially sintering a reinforcement preform made of ceramic particles; and

infusing a metal matrix under pressure into the preform yielding an isotropic metal matrix composite with a high temperature stiffness retention of at least 95% at temperatures up to 500°F, the metal matrix material selected from the group consisting of aluminum, an aluminum alloy, magnesium or a magnesium alloy.

63. (New) The method of claim 62 in which the metal matrix composite has a high temperature strength retention of at least 85% up to 500 °F.

64. (New) The method of claim 62 in which the preform has an average pore size of 1-5 microns, an average interconnected porosity of between 35-45 vol.%, approximately 100% open porosity, and a flexure strength of greater than 7 ksi.

65. (New) The method of claim 62 in which the ultimate tensile strength of the metal matrix composite is at least 80 ksi in all directions.

66. (New) A method of making a metal matrix composite, the method comprising:

partially sintering ceramic particles to form a preform in which the ceramic particles have an average pore size of between 1-5 microns, an average interconnected porosity of between 35-45 vol.%, approximately 100% open porosity, a flexure strength of greater than 7 ksi, and isotropic properties; and

infusing under pressure a metal matrix into the preform yielding an isotropic metal

matrix composite with a high temperature strength retention of at least 85% up to 500°F, high temperature stiffness retention of at least 95% up to 500°F, and an ultimate tensile strength of at least 80 ksi in all directions, the metal matrix material selected from the group consisting of aluminum, an aluminum alloy, magnesium or a magnesium alloy.